

## **REMARKS**

### **A. Status of Claims**

Claims 1-20 are pending. Claims 18-20 are allowed. Claim 1 is rejected under 35 U.S.C. § 102(a). Claims 1, 2, 4, 7, 8 and 10 are rejected under 35 U.S.C. § 103(a). Claims 3, 5, 6, 9 and 11-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 1 has been amended to claim the subject matter with more particularity. Support for the amendment to claim 1 can be found in the original specification as filed at page 1, lines 2-5 and page 7, lines 25-27. In addition, claim 18 has been amended to correct a readily apparent informality. Applicant submits that no new matter is introduced by the proposed claim amendments, entry thereof is respectfully requested.

Claims 21-26 have been added. Support for these claims can be found in the original specification as filed at page 8, lines 8-30; page 10 line 5- page 12, line 12; and page 12, lines 13-21. Applicant submits that no new matter is introduced by the proposed new claims; entry thereof is respectfully requested.

### **B. Amendments to the Drawings**

Amendments to the drawings have been made to correct certain informalities. First, the drawings were objected to because a zipper must be shown or the features canceled from the claims. Applicants have thus amended Figure 4 to show a zipper, pursuant to the Examiner's suggestion. Withdrawal of the objection is respectfully requested.

Second, the drawings were also objected because they did not include certain reference signs mentioned in the description. Specifically, 100, 113, and 114 were missing from Figure 2; 100, 102, and 112 were missing from Figure 3; and 100, 102, and 104 were missing from Figure 4. Applicants have thus amended Figures 2, 3, and 4 to include the respective reference signs, pursuant to the Examiner's suggestion. Withdrawal of the objections is respectfully requested.

**C. Amendments to the Specification**

Amendments to the specification have been made so as to correct typographical errors and to more particularly point out the invention. Specifically, Applicant has amended pages 8, 10, 11, and 12 to include consistent descriptions of reference numbers 102 and 103, pursuant to the Examiner's suggestions. Applicant has amended page 12, line 15, in view of the amended Figure 4 which now shows a zipper. In addition, a typographical error on page 10, line 3 has been corrected.

Support for the above amendments directed to the reference numbers can be found in the original specification as filed at page 8, lines 15-22, which provide that "[f]irst end and second ends 102 and 103 may comprise simple inlet and outlet holes, but in a preferred embodiment both ends comprise built-in spouts..." *Id.* Thus, Applicant submits that no new matter is introduced by the proposed amendments to the specification, entry thereof is respectfully requested.

#### **D. The Response**

##### **1. Rejection of Claim 1 under 35 U.S.C. § 102(a)**

Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Japan patent no. 200170648A to Ja et al (“Ja”). In particular, the Examiner states that “Ja describes an apparatus comprising a permeable membrane defining a bag having an opening, an interior space and fine openings in the membrane with chitosan located within the bag.” Office Action dated June 12, 2003 at page 3, paragraph 6. Applicant respectfully submits that Ja fails to anticipate the referenced claim.

In order to anticipate a claim, the reference must teach every element of the claim, either expressly or inherently. Here, claim 1, as amended, recites *inter alia* “[a] storm water treatment apparatus for removing silt, sedimentation, and suspended solids from incoming water, comprising: (a) a first permeable membrane defining a bag and having a first opening... and (b) one or more applications of chitosan located within said bag.” Because the recitation of “an apparatus for removing sedimentation, and suspended solids from incoming water” affirmatively limits the structure of claim 1, this recitation must be treated as a claim limitation. *See* M.P.E.P. § 2111.02 (providing that “[a]ny terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation.”); *see also Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.* 868 F.2d 1251, 1257 (Fed. Cir. 1989).

Rather than the claimed apparatus, the chitosan elution device of Ja is directed to sterilizing and suppressing growth of bacteria in potable water. *See* Ja Abstract and the DIALOG Report attached to this Response. Specifically, the problem Ja seeks to solve is the suppression of microorganism growth or the anti bacteria in drinking water. *See id.* This

disclosure does not teach an apparatus for removing silt, sedimentation, and suspended solids from incoming water, as described and claimed in the present invention. As such, Applicant submits that claim 1, as amended, is patentable over the prior art for at least the foregoing reasons and respectfully requests allowance of this claim.

**2. Rejection of Claims 1, 2, 4, 7, and 8 under 35 U.S.C. § 103(a)**

Claims 1, 2, 4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent no. 6,334,953 to Singleton (“Singleton”) in view of U.S. patent no. 5,511,904 to Van Egmond (“Van Egmond”) and in view of Vanson (“Vanson”). In particular, the Examiner states that “it would have been obvious to a person of ordinary skill in the art to provide Singleton’s assembly with filtration material inside the bag in order to remove as much of the contaminants form [sic] the storm water as possible, as suggested by Van Egmond. Suitable filtration material is chitosan gel, as suggested by Vanson.” Office Action dated June 12, 2003 at page 4, paragraph 12. Applicant respectfully submits that the Office action fails to set forth a prima facie case of obviousness.

The teaching or suggestion to combine references and the reasonable expectation of success in doing so must both be found in the prior art and not in the Applicant’s disclosure. *See* M.P.E.P. §2143. Here, there is no suggestion or motivation to apply Van Egmond’s use of filtration materials to Singleton’s filter assembly. That is, nowhere does the referenced prior art contemplate the use of filtration material, namely chitosan, in the claimed filter assembly, to achieve the objectives of the present invention. While Van Egmond provides for filter sacks containing pea gravel, sand, and charcoal for use in a non-porous funnel tube mounted to a surge basin, Egmond does not contemplate the use of these filtration materials

in a dewatering bag. See Van Egmond at column 1, lines 57-63 and column 3, lines 1-8. Specifically, Van Egmond's *funnel tube* is structurally distinct and distinguishable from Singleton's *filter assembly bag* mounted to the discharge end of an outlet pipe. See Singleton at column 2, lines 11-12. Given these different structures, there is no motivation or teaching the prior art to apply filtration elements in Van Egmond's funnel assembly to Singleton's filter assembly bag.

Notwithstanding this deficiency, neither Singleton nor Van Egmond contemplate the use of chitosan to improve water treatment devices and allow for reusability. While Van Egmond lists a number of filtration materials such a pea gravel, sand, and charcoal, there is no mention of filtration materials, and in particular chitosan, that "react with the small electrical charges in pollution, fine silt and sediment particles, such that many of these tiny bits of contamination and silt coagulate into larger chunks... [which] can then be filtered more easily from the fluid." Original Specification of the present invention at page 4, lines 20-24.

Given the different structures and disclosures of the referenced prior art, there is no motivation to apply chitosan to improve the ability of water treatment devices to remove unwanted pollution and to provide devices that may be reusable, as described and the present invention. Accordingly, claim 1 is patentable over the Singleton, Van Egmond, and Vanson. Because claims 2, 4, 7, and 8 all depend from independent claim 1, these claims are also patentable for at least the same reasons. Applicant respectfully requests the allowance of these claims.

### **3. Rejection of Claim 10 under 35 U.S.C. § 103(a)**

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singleton in view of Van Egmond and Vanson as applied to claims 1, 2, 4, 7, and 8 above, and further in view of U.S. patent application publication 2002/0130070 A1 to Roesner ("Roesner"). In particular, the Examiner states that "it would have been obvious to a person of ordinary skill in the art to provide Singleton's assembly with chitosan gel inside the bag in order to remove as much of the contaminants from the storm water as possible, as suggested by Van Egmond and Vanson, and to provide the bag of Singleton's assembly with a zipper in order to be able to replace the chitosan gel or to remove the collected debris from inside the bag so that the bag can be reused, as suggested by Roesner." Office Action dated June 12, 2003 at page 5, paragraph 17.

As with the previous claims, Applicant submits that there is no teaching or suggestion to combine references and reasonable expectation of success in doing so in the prior art. The specification of the instant invention notes that a feature of the present invention is "the ability to clean out and reuse the inventive dewatering bags rather than disposing of them after they become filled... Accordingly, one or more zippers... are provided." Original specification of the present invention at page 12, lines 13-16. Singleton, in fact, teaches away from a zipper to allow for reuseability in its disclosure that "[o]nce the filter bag has been filled,... [t]he sealed filter bag with its collected sediment and/or silt then can be removed and used as a stabilizing or retaining means... or can be left in place if so desired..." Singleton at column 6, lines 11-18. The referenced prior art, thus, fails contemplate the use of a zipper, as claimed and described in the present invention. Further, this is consistent with the disclosure of the present invention, which expressly describes this as a drawback of

existing dewatering bags. *See* Original specification of present application at page 4, lines 3-4 (stating that “[o]ne of the drawbacks to existing dewatering bags is that such bags are typically disposable and are designed to be used only once before being thrown away.”) Thus, there is no motivation to combine Roesner’s zipper on a drain filtration pad to a filtration bag, as claimed and described in the present invention.

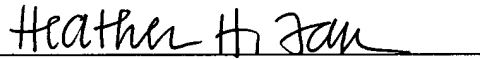
Applicant submits that no combination of references has been applied to the claim 10 that would have suggested or motivated on of ordinary skill in the art to make the claimed combination. Accordingly, Applicant respectfully submits that claim 10 is patentable over the prior art for at least the foregoing reasons, and respectfully requests allowance of this claim.

### CONCLUSION

In view of the foregoing amendments and remarks, the Applicants believe that the application is in proper form and condition for allowance. A Notice of Allowance is earnestly requested. Outside the fee for the petition for extension of time, it is believed that no other fee is due at this time. Should any fee be required for any reason related to this document, however, the Commissioner is authorized to charge said fee to Deposit Account No. 08-3038, referencing Docket No. 11533.0024.NPUS00. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 463-8100.

Respectfully submitted,

Date: December 12, 2003



Heather H. Fan, Reg. No. 51,664

Glenn W. Rhodes, Reg. No. 31,790

**HOWREY SIMON ARNOLD & WHITE, LLP**  
301 Ravenswood Avenue  
Box 34  
Menlo Park, CA 94025-3435  
Ph. (650) 463-8100